METHOD AND APPARATUS PROVIDING CANCELLATION OF SECOND ORDER INTERMODULATION DISTORTION AND ENHANCEMENT OF SECOND ORDER INTERCEPT POINT (IIP2) IN COMMON SOURCE AND COMMON EMITTER TRANSCONDUCTANCE CIRCUITS

ABSTRACT OF THE DISCLOSURE

A transconductor circuit includes a first input device M_1 and a second input device M_2 each having a control terminal coupled to a radio frequency input signal, and a bias setting device M_B having a control terminal coupled to the radio frequency input signal and an output coupled to the control terminal of each of said M_1 and M_2. M_B is partitioned into two equal sized bias setting devices M_{B1} and M_{B2}. In the preferred embodiment M_{B1} and M_{B2} are coupled to the control terminals of M_1 and M_2 for establishing a bias voltage at the control terminals of M_1 and M_2. The circuit is shown to substantially cancel second-order intermodulation distortion and to enhance a second order intercept point.